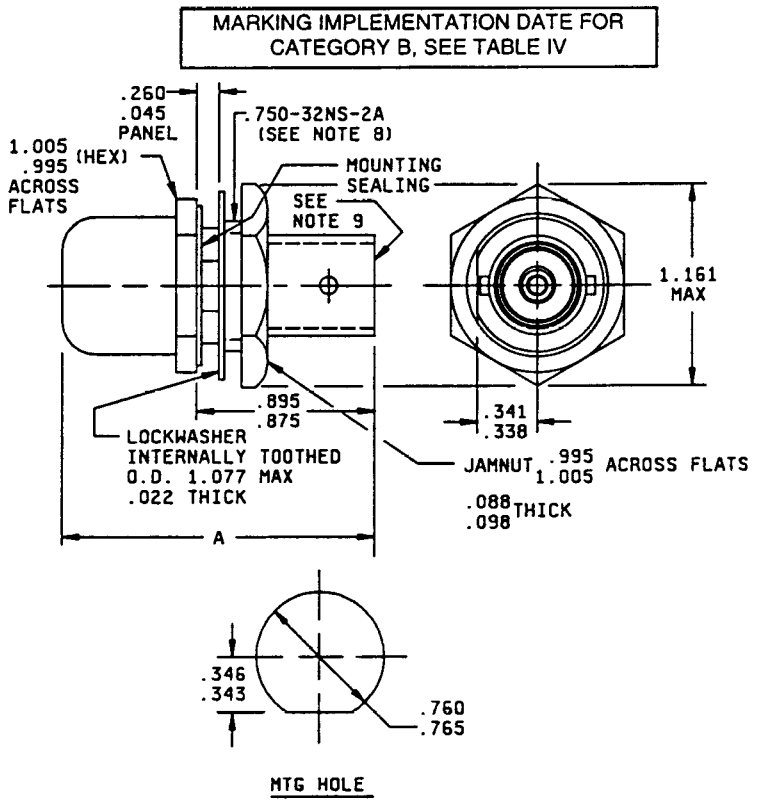
NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

PERFORMANCE SPECIFICATION SHEET

CONNECTORS, RECEPTACLE, ELECTRICAL, COAXIAL, RADIO FREQUENCY, (SERIES C, (CABLED), FEMALE, JAM NUT, REAR MOUNTED, PRESSURIZED, CLASS 2)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the connectors described herein shall consist of this specification sheet and the latest issue of MIL-PRF-39012.



Inches	mm
.022	0.56
.088	2.24
.098	2.49
.260	6.60
.338	8.59
.341	8.66
.343	8.71
.346	8.79
.760	19.30
.765	19.43
.875	22.23
.895	22.73
.995	25.27
1.005	25.53
1.077	27.36

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. For dimensions A see table I and III.
4. Dimension 1.161 (29.49 mm) maximum is the largest overall diameter of the connector.
5. Wrench flats to accommodate standard wrench in accordance with H28, appendix 10.
6. All undimensioned pictorial representations are for reference purposes only.
7. Dimension 'A' defines the maximum length of the connector when assembled to the appropriate cable.
8. Orientation of body hex flats, mounting flats and bayonet studs shall be within 3° of that shown. Full threads to within .063 (1.60 mm) of shoulder; 1 ½ maximum uneven threads to shoulder.
9. Series C, socket contact interface in accordance with MIL-STD-348, 302.2.

FIGURE 1. General configuration.

TABLE I. Dash numbers, cross-reference, and dimensions.

Dash no. 1/	Applicable cable 2/ M17/	Typical mating connector M39012/ (optional hardware) 3/	Dimensions	Inches (millimeters) Minimum	Inches (millimeters) Maximum
CATEGORY A - FIELD SERVICEABLE (NO SPECIAL TOOLS REQUIRED)					
0001 4/	73-RG212 5/ 112-RG304	6-0001	A	1.416 (35.97)	1.666 (42.32)
0002 4/	65-RG165 74-RG213 75-RG214 5/ 86-00001 7/	6-0002 10-0001			
0018 6/	73-RG212 5/ 112-RG304	6-0014			
0019 6/	65-RG165 74-RG213 75-RG214 5/ 86-00001 7/	6-0015			
0020 6/	74-RG215 8/	6-0019	A	1.416 (35.97)	2.093 (53.16)
0021 6/	92-RG115 7/	6-0020 10-0009	A	1.416 (35.97)	1.666 (42.32)
CATEGORY C - FIELD REPLACEABLE (MIL-C-22520 CRIMP TOOL) 6/ 9/ SEE FOOTNOTE NEXT TO APPLICABLE CABLE FOR CRIMP DIE					
0012	73-RG212 5/ 10/ 112-RG304 10/	6-0027	A	1.510 (38.35)	1.885 (47.88)
0013	65-RG165 7/ 11/ 74-RG213 5/ 11/	6-0028 10-0006			
0014	75-RG214 5/ 11/	6-0029 10-0007			
0015	86-00001 5/ 7/ 11/	6-0030 10-0008			
0016	6-RG11 5/ 11/ 12/	6-0031			
0017	92-RG115 11/	6-0032 10-0011			

1/ For cross-reference of dash number to superseded part number or type designation, see table IV.

2/ The RG cables are specified with the basic number. The latest version of each cable shall be applicable.

3/ Optional hardware part numbers are in parentheses.

4/ Inactive for new design.

5/ Cable to be used when performing tests requiring cable except as in 7/ and 12/.

6/ These connectors have captivated center contacts.

7/ Cable to be used for the +200°C temperature cycling tests.

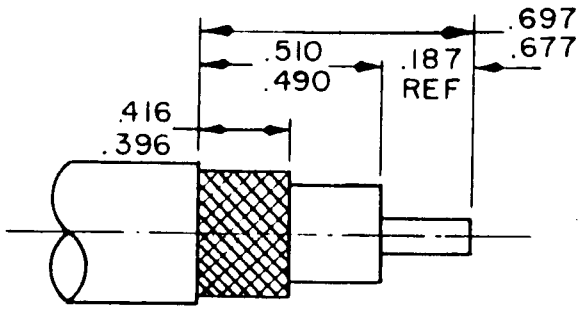
8/ Armored cable.

9/ Category C connectors are assembled by means of the applicable crimping tool per MIL-C-22520 to the specified cable stripping in accordance with figure 2.

10/ M22520/5-35 Closure A or M22520/5-55 Closure A

11/ M22520/5-61

12/ These are not 50-ohm cables; therefore, when attached to the specified connectors, VSWR, RF leakage, and insertion loss are not applicable.



Inches	mm
.187	4.75
.396	10.06
.416	10.57
.490	12.45
.510	12.95
.677	17.20
.697	17.70

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 2. Recommended cable stripping dimensions for category C connectors.

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 11,000 MHz.

Voltage rating:

1,000 volts rms, maximum working voltage at sea level.

250 volts rms, maximum at 70,000 feet.

Temperature rating: -65°C to +165°C.

REQUIREMENTS:

Dimensions and configuration: See figure 1 and MIL-STD-348.

Force to engage and disengage:

Longitudinal force - 4-1/2 pounds maximum.

Torque - 4 inch-pounds, maximum.

Coupling proof torque: Not applicable.

Inspection conditions: Coupling torque not applicable.

Mating characteristics:

Center contact (female):

Oversize test pin - .098 diameter minimum (non-closed entry contacts only).

Insertion depth - .125 minimum.

Number of insertions: 1.

Insertion force test - steel test pin diameter .092 minimum.

Test pin finish - 16 microinches.

Insertion force - 2 pounds maximum.

Withdrawal force test: Steel test pin diameter .090 maximum.

Withdrawal force - 2 ounces minimum.

Test pin finish - 16 microinches.

Hermetic seal: Not applicable.

Leakage (pressurized connectors):

Connectors shall be mounted in mounting hole shown on figure 1 with mating end capped. Test applicable to mounting seal only. Air pressure - 30 psi. Duration - 30 seconds minimum, 2 minutes maximum.

Insulation resistance: Method 302 of MIL-STD-202, test condition B. 5,000 megohms minimum.

Center contact retention: 6 pounds minimum axial force.

Corrosion (salt spray): Method 101 of MIL-STD-202, test condition B.

Voltage standing wave ratio (VSWR): From .5 to 11 GHz, or approximately 80 percent of upper cutoff frequency of the cable, whichever is lower; 1.35 maximum.

Swept frequency VSWR test setup:

Item 6 - VSWR shall be less than 1.015 + .005 F (F in GHz).

Item 16 - VSWR shall be less than 1.015 + .005 F (F in GHz).

Second step of VSWR checkout procedure - VSWR shall be less than 1.045 + .015 F (F in GHz).

Group B inspection - VSWR shall be less than 1.10 + .01 F (F in GHz).

Qualification and group C inspection - VSWR shall not exceed 1.15.

Connector durability: 500 cycles minimum at 12 cycles/minute maximum. The connector shall meet the mating characteristics and force to engage and disengage requirements.

Contact resistance: In milliohms maximum:

	Initial	After environment
Center contact	1.0	1.5
Outer contact	.35	Not applicable
Braid to body	.05	Not applicable

Dielectric withstanding voltage: Method 301 of MIL-STD-202. 3,000 volts rms minimum at sea level.

Vibration, high frequency: Method 204 of MIL-STD-202, test condition B.

Shock: Method 213 of MIL-STD-202, test condition I.

Thermal shock : Method 107 of MIL-STD-202, test condition B, except test high temperature shall be +85°C. High temperature shall be +200°C for connectors using +200°C cables (see table I and III).

Moisture resistance: Method 106 of MIL-STD-202. No measurements at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes after removal from humidity.

Corona level:

Voltage - 750 volts rms, minimum.

Altitude - 70,000 feet.

RF high potential withstanding voltage:

Voltage and frequency: 2,500 volts rms at a frequency from 5 to 7.5 MHz.

Leakage current: Not applicable.

Cable retention force:

Noncrimp assemblies: 75 pounds minimum.

Crimp assemblies:

50 pounds minimum for cables .155-.189 OD.

60 pounds minimum for cables .190-.229 OD.

75 pounds minimum for cables .230-.249 OD.

90 pounds minimum for cables .250 OD and larger.

Coupling mechanism retention force: Not applicable.

RF leakage: -55 dB minimum, tested at a frequency between 2 and 3 GHz.

Insertion loss:

.15 dB maximum tested at 9 GHz.

$.05\sqrt{F\ (GHz)}$ dB maximum tested at 3 GHz and 6 GHz.

Part number: M39012/11- (dash number from table I or "B" number from table III).

TABLE II. Group Qualification.

Group	Submission and qualification of any of the following connectors	Qualifies the following connectors
	M39012/11	M39012/11
I	-0002	-0001 -0002
II	-0019	-0018 -0019 -0020 -0021
III	B0023	B0022 B0023 B0024 B0025 B0026 B0027
IV	-0012	-0012 -0013 -0014 -0015 -0016 -0017

NOTE: If a connector manufacturer produces a connector which meets all the requirements for two or more connector part numbers (within the same series), the manufacturer may receive qualification approval for two or more connector part numbers qualifying the one connector. It is not necessary that such connectors be in the same group. Each connector, however, must be marked with its own appropriate part number. For group qualification, the connectors must be of similar design.

TABLE III. CATEGORY B - NONFIELD REPLACEABLE (SPECIAL TOOLS MAY BE REQUIRED).

NOT FOR AIR FORCE OR NAVY USE. FOR OEM USE ONLY.

Part no. 1/ M39012/1IB	Applicable cable 2/ M17/	Typical mating connector M39012/ (optional hardware) 3/	Dimensions	Inches (millimeters) Minimum	Maximum
0022 4/	73-RG212 5/ 112-RG304	6-0021	A	1.510 (38.35)	1.885 (47.88)
0023 4/	65-RG165 74-RG213	6-0022			
0024 4/	75-RG214 5/	6-0023			
0025 4/	86-00001 5/ 6/	6-0024			
0026 4/	6-RG11 5/ 7/				
0027 4/	92-RG115 5/ 6/	6-0026 10-0010			

1/ For cross-reference of dash number to superseded part number or type designation, see table IV.

2/ The RG cables are specified with the basic number. The latest version of each cable shall be applicable.

3/ Optional hardware part numbers are in parentheses.

4/ These connectors have captivated center contacts.

5/ Cable to be used when performing tests requiring cable except as in 6/ and 7/.

6/ Cable to be used for the +200°C temperature cycling tests.

7/ These are not 50-ohm cables; therefore, when attached to the specified connectors, VSWR, RF leakage, and insertion loss are not applicable.

TABLE IV. Cross-reference of part numbers. 1/

Preferred part number M39012/11	Substitute for part number or type designation 1/2/
-0001	UG-630/U, UG-1773/U
-0002	UG-570/U, UG-1774/U, M23329/1-11, UG-1775/U, M23329/1-12, UG-1776/U, M23329/1-14
-0011	
-0012	
-0013	
-0014	
-0015	M39012/11-0008, UG-1777/U, M23329/1-15
-0016	
-0017	
-0018	M39012/11-0001, UG-603/U
-0019	M39012/11-0002, UG-570/U
-0020	M39012/11-0010
-0021	
B0022	M39012/11-0022
B0023	M39012/11-0023
B0024	M39012/11-0024
B0025	M39012/11-0025
B0026	M39012/11-0026
B0027	M39012/11-0027

1/ The new "B" part numbers will be required marking 6 months after the date of this specification. The connectors that are in stock or distribution that were previously qualified and marked with the old part number shall also be considered acceptable for Government use until connector stock is purged.

2/ The superseded part number or the type designation is for cross-reference only. Where a superseded part number or type designation is not given, none was assigned or will be assigned. The part number M39012/11-XXXX shall be used in all cases for marking and identifying the connector.

3/ The basic type designation includes all letter versions of the specificed number, e.g. UG-18/U includes UG-18 A/U, UG-18B/U, etc.

Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 85

Review activities:
Army - EA, MI
Air Force - 11, 17, 99
DLA - ES

User activities:
Army - AT, AV
Navy - AS, MC, OS, SH
Air Force - 19

Preparing activity:
Army - CR

Agent:
DLA - ES

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